



# Software Design Documentation

## ReZerve

4/29/2021

### Introduction

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ReZerve is a web application software geared towards providing barbershops and salons with a valuable tool to help thwart the negative effects brought on by the COVID-19 pandemic. Over the course of the past year or two small businesses such as barbershops and salons have faced significant drops in business due to their interpersonal nature. The ReZerve application was presented to us by our project champion Nate Bekele as a piece of software that can help bridge the gap between customers and their hair stylists.

### Design Considerations

Here are a few of the initial design goals set for the ReZerve application:

- ❖ The ability for customers and businesses to create and manage an account
- ❖ The option for customers to geographically search for businesses around them or in an area of their choosing, and then research those businesses
- ❖ The ability for customers to create and manage appointments with a barbershop or salon
- ❖ Customers should be able to provide feedback and ratings to businesses for other customers to see
- ❖ Businesses should have the ability to view information and statistics about their customers and profits
- ❖ Employees of businesses should be able to manage their pages which includes: basic information, availability times, services, etc.
- ❖ Employees should also be able to manage their clients and appointments created with them
- ❖ Have a cohesive feel and color scheme throughout both flows of the application

## Use Cases

Below are two of the many possible use cases for the application:

### Customer Use Case

Let's say we have an actor who just recently moved to a new city and is interested in finding a barbershop to get their haircut. Using the ReZerve application they could search for shops in their area and be provided with a list of businesses that they can then research further. After evaluating the ratings and reading the reviews of a shop, they could make an informed decision on which shop they want to make an appointment with. They can then use ReZerve to select a barber, their desired services, and even an appointment time that works best for them then checkout and pay all in one fell swoop.

### Business Use Case

If a business who has been heavily affected by the onset of the COVID pandemic was looking for a way to generate new customers and communicate with those customers, ReZerve would be perfect. They would be able to use the ReZerve application to create their business with all of their employees and services they offer. Then customers could easily find their business by searching in the area around them, schedule appointments, and even message their stylists to maintain that interpersonal relationship. They would also be able to let customers pay on the website ahead of time, saving them the hassle of having to worry about it after a customer's appointment is finished.

## Risks

Like with any software, especially web applications, ReZerve does have a few risks that need to be addressed.

Risk	Risk Reduction
User Transaction Data	Using Stripe, a reputable and secure payment company that provides an API to handle all transactional functionality
User Authentication Credentials	Using Firebase Authentication, a product made by Google, that provides a simple and secure way to manage user accounts

## System Architecture

The ReZerve application takes a two-pronged approach providing functionality for *both* customers and businesses alike. Here is a breakdown of how both of these flows operate and the functionality they provide the user.

### Customer Flow

Starting with the customer flow, when a user directs to the website they will be greeted by the home page (Figure 1). This page contains several tabs at the top that allow customers to filter by the type of business they are looking for. They can then search by location and be presented with a list of businesses within a general area of that location. When clicking on a business they will see more detailed information such as the address, a general description, and reviews left by other customers (Figure 2). Then they will be able to click on an employee and see a list of the services they offer. If one of those services is what they are looking for, they can select an appointment time, pay, and request the appointment to be booked (Figure 3). All of these features are also offered if you are only accessing the site as a guest, but if you actually create a user account you will be able to access many more features. These include the ability to view and manage your upcoming, requested, and past appointments (Figure 4). The ability to send and receive messages from your stylist, and the ability to leave reviews for a business upon completion of an appointment (Figure 5).

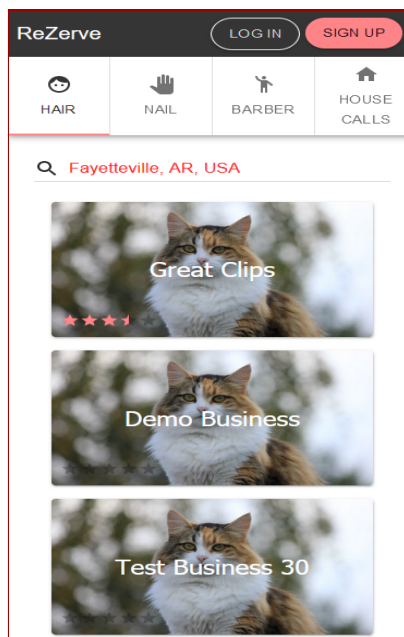


Figure 1

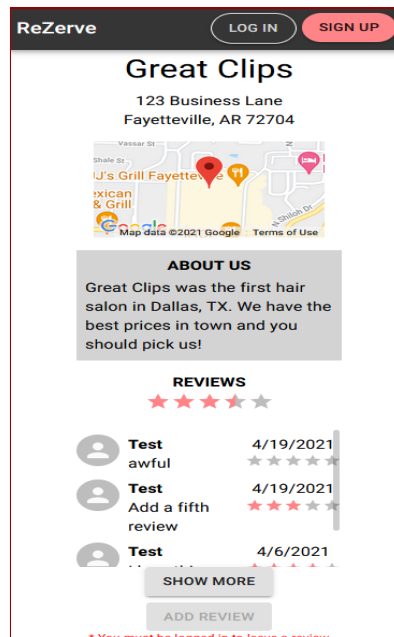


Figure 2

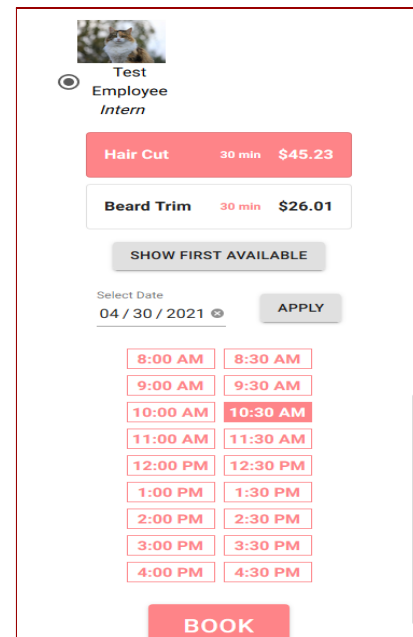


Figure 3

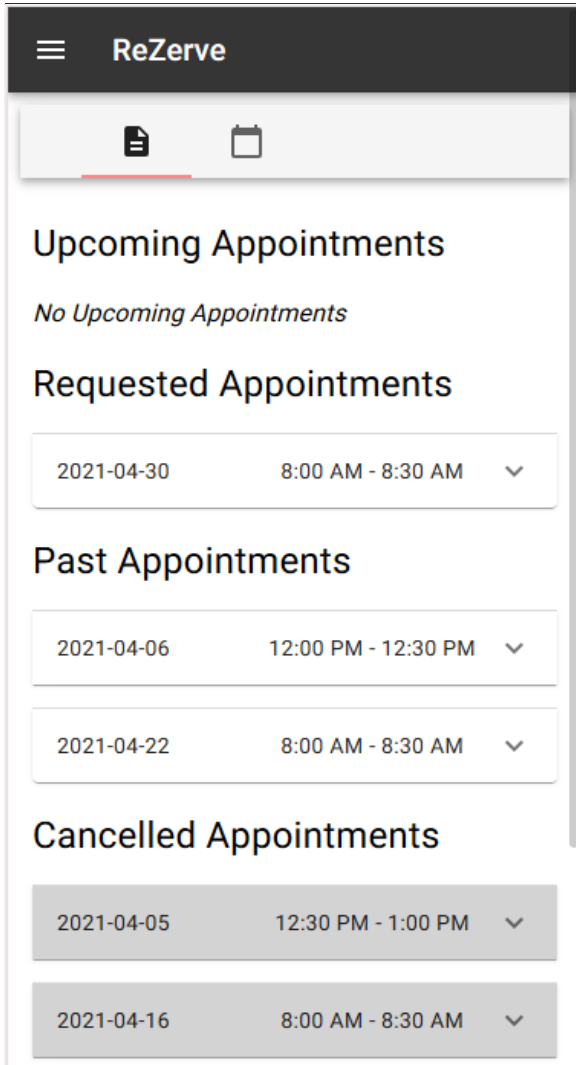


Figure 4

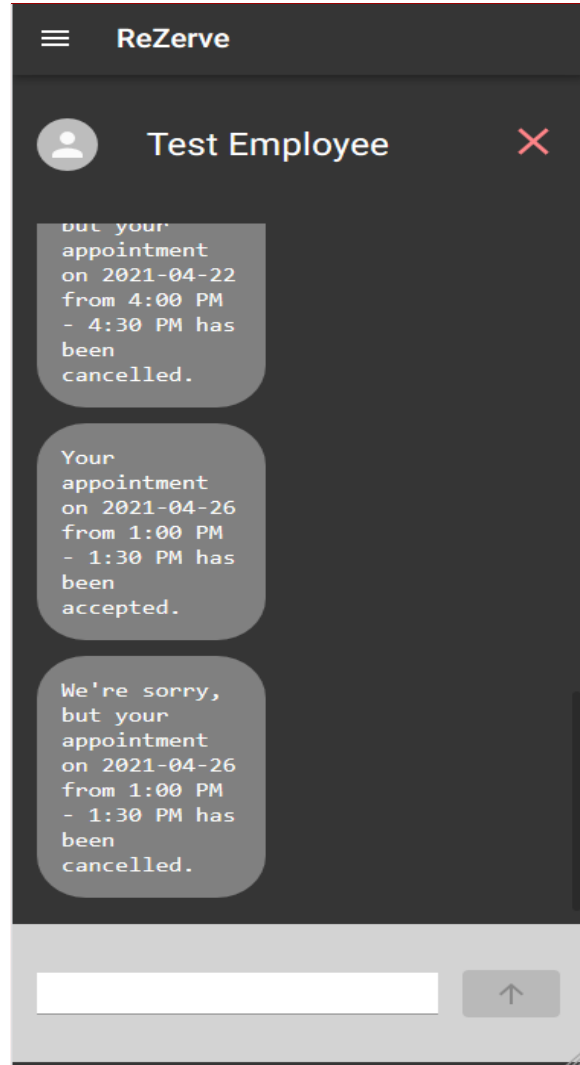


Figure 5

## Business Flow

On the business side of things, the first step will be for the owner to create a user account, and then create a business profile that's attached to their account. They will then have two different pages they can access, that normal customers can't: Employee Home and Business Home. The employee home page is what all employee type users will be directed to after logging in. This page will provide employees with a place to view and edit their information like name, position, availability, services offered, etc (Figure 6). Here they can also view and manage their appointments and view a calendar view of what their upcoming day or week looks like (Figure 7). Also they have the ability to see a list of their current clients and how many times they have visited for an appointment. On the Business Home side of things, if the currently logged in employee is the owner, they will be able to see and edit all of the business information displayed to customers. Then they will be able to see an overview of the business' employees and a performance page. This performance page will track things such as revenue, number of appointments, and the rating and reviews of the business (Figure 8).

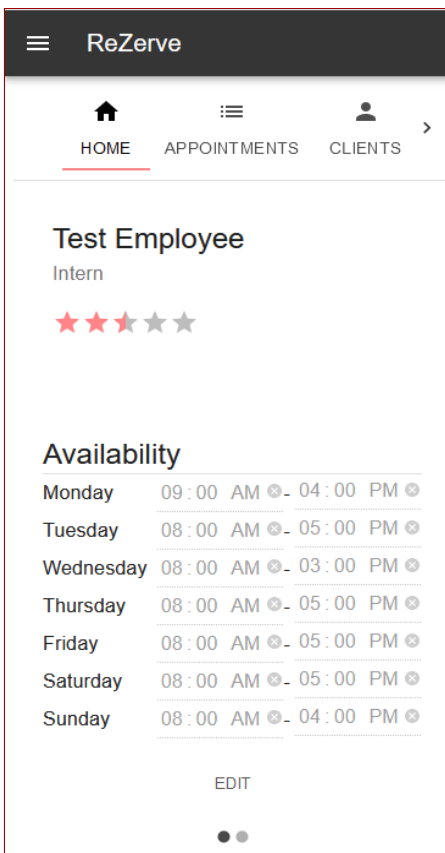


Figure 6

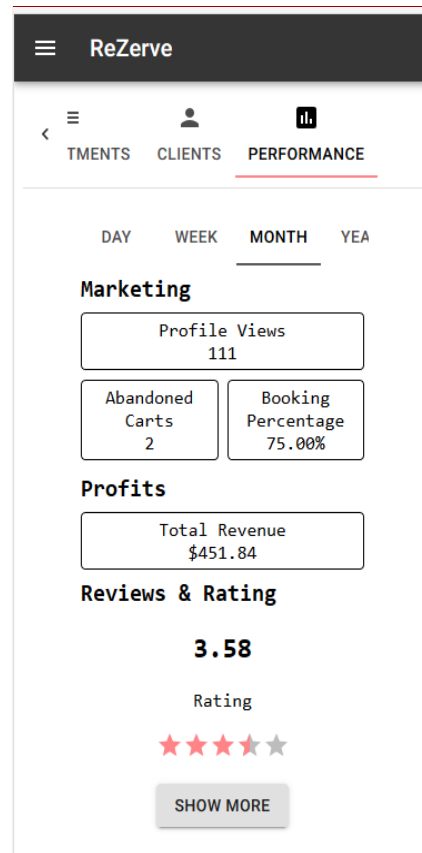


Figure 7

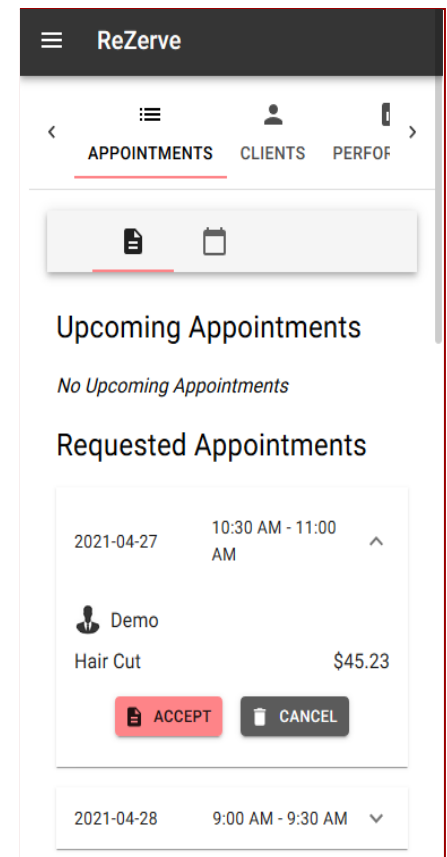


Figure 8